REMARKS

Claims 1-19 are pending. In the final Office Action mailed on March 15, 2006, the Examiner rejected claims 1-19 under 35 U.S.C. § 102(b) over U.S. Patent No. 5,542,058 to Brown III et al. ("Brown"). Further examination and review in view of the amendments and remarks below are respectfully requested.

Applicants would like to thank the Examiner for the courtesy extended to Applicants' representative during the May 9, 2006 telephone interview, during which Applicants' representative explained the details of the pointer that points to the memory location. During that interview, the participants also discussed the rejection of the claims, the Brown reference, and proposed amendments to the claims.

Applicants' techniques are directed to detecting when a portion of a computer program is improperly accessing a memory location. One aspect of Applicants' techniques provides a pointer in memory that is used by the computer program to access the memory location. The pointer contains an indication of whether traps to the pointed to memory location are enabled or disabled. The memory location also has a trap indicator, which is different from the aforementioned indication contained in the pointer, and which can be set to indicate that a trap should occur when the memory location is accessed. Then, when the computer program uses the pointer to access the memory location, the combination of the trap indication contained in the pointer and the trap indicator associated with the memory location determines whether a trap should or should not occur. For example, a trap occurs only if both the trap indication contained in the pointer and the trap indicator associated with the memory location are set to indicate that the trap should occur. Otherwise, the trap does not occur. This allows an authorized portion of a computer program to access a protected memory location (i.e., a memory location whose trap indicator is set to indicate that a trap should occur when the memory location is accessed) without causing a trap by using a pointer that has its indication set to indicate that traps are disabled, and using this pointer to access the protected memory location. The trap

indicator associated with the protected memory location does not need to be changed to indicate that the trap should not occur. In this scenario, even though the trap indicator associated with the protected memory location continues to indicate that the trap should occur, the trap does not occur because the indication contained in the pointer indicates that traps are disabled. In contrast, a portion of the program that is not authorized to access the protected memory location uses a pointer with the trap enabled. Thus, when the unauthorized portion uses the pointer to access the protected memory location (e.g., as a result of a bug in the program), a trap will occur and the access will be denied.

As suggested by the Examiner during the telephone interview, Applicants herein amend the independent claims to make it clear that the pointer to a memory location contains an indication that indicates whether traps to the pointed to memory location are enabled or disabled. For example, amended claim 1 recites "under control of an unauthorized portion of a computer program, . . . setting an indication included in the pointer [pointing to the memory location] to indicate that traps to the pointed to memory location are enabled," and "under control of an authorized portion of a computer program, . . . setting an indication included in the pointer to indicate that traps to the pointed to memory location are disabled."

It is the Examiner's position that Brown's microtrap selector corresponds to the claimed pointer to the memory location which contains an indication that indicates whether traps to the pointed to memory location are enabled or disabled. Although Brown describes that a trap does or does not occur based on the inputs of the microtrap selector, Brown neither teaches nor suggests that the microtrap is a pointer to a memory location, or that the microtrap selector includes an indication that indicates whether a trap should occur. In particular, Applicants can find nothing in Brown suggesting that a pointer to a memory location contains an indication that indicates whether traps to the pointed to memory location are enabled or disabled.

Conclusion

In view of the foregoing, Applicants respectfully submit that claims 1-19 are allowable and ask that this application be passed to allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-8000.

Dated: June 28, 2006

Respectfully submitted,
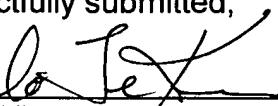
By _____
Do Te Kim
   Registration No.: 46,231
PERKINS COIE LLP
P.O. Box 1247
Seattle, Washington 98111-1247
(206) 359-3265
(206) 359-4265 (Fax)
Attorney for Applicant